AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows. This listing of claims will replace all prior versions and listings of claims in the application:

1.-26. (Cancelled)

27. (Currently Amended) A method for determining at least one location coordinate of a mobile terminal with respect to a set of reference elements adapted to send radioelectric signals toward said mobile terminal, comprising the steps of:

measuring said radioelectric signals to derive respective measurements, said measurements being affected by measurement errors;

subjecting such measurements to state-based statistical filtering;

selecting at least part of said set reference elements as terrestrial reference elements;

providing in said statistical filtering at least one further state in addition to said at least one location coordinate, said at least one further state being representative of said measurement errors, wherein said represented errors are non-zero mean errors; and

determining from said state-based statistical filtering said at least one location coordinate of said terminal.

28. (Previously Presented) The method of claim 27, wherein said statistical filtering is Kalman filtering.

29. (Previously Presented) The method of claim 27, comprising the step of associating with said respective measurements at least one additional measurement indicative of at least one of the location and displacement of said mobile terminal.

30. (Previously Presented) The method of claim 29, comprising the step of measuring an altitude coordinate of said mobile terminal.

31. (Previously Presented) The method of claim 27, comprising the step of including in said set of reference elements at least one satellite-based reference element of a satellite-based positioning system.

32. (Previously Presented) The method of claim 27, wherein measuring said radioelectric signals comprises the step of determining at least one parameter selected from the group consisting of: power received at said mobile terminal from said set of reference elements, timing advance, round trip time, observed time differences, and observed time differences of arrival.

33. (Previously Presented) The method of claim 27, comprising the step of selecting at least part of said set of reference elements as elements comprising, together with said mobile terminal, a terrestrial cellular communication system.

34. (Currently Amended) A method for determining at least one location coordinate of a mobile terminal with respect to a set of reference elements adapted to send radioelectric signals toward said mobile terminal, comprising the steps of:

including in said set of reference elements both terrestrial reference elements and at least one satellite-based reference element of a satellite-based positioning system;

measuring said radioelectric signals to derive respective measurements, said measurements being affected by measurement errors;

subjecting said measurements to state-based statistical filtering;

providing in said statistical filtering at least one further state in addition to said at least one location coordinate, said at least one further state being representative of said measurement errors, wherein said represented errors are non-zero mean errors;

associating with said respective measurements at least one additional measurement indicative of at least one of the location and displacement of said mobile terminal; and

determining from said state-based statistical filtering said at least one location coordinate of said terminal.

35. (Currently Amended) A system for determining at least one location coordinate of a mobile terminal with respect to a set of reference elements adapted to send radioelectric signals toward said mobile terminal, comprising:

at least one measuring module for measuring said radioelectric signals and deriving respective measurements, said measurements being affected by measurement errors; and

at least one processing module adapted for subjecting such measurements to state-based statistical filtering,

at least a part of said set of reference elements being terrestrial reference elements, and said at least one processing module being configured to:

include in said statistical filtering at least one further state in addition to said at least one location coordinate, said at least one further state being representative of said measurement errors, wherein said represented errors are non-zero mean errors; and

determine from said state-based statistical filtering said at least one location coordinate of said terminal.

36. (Previously Presented) The system of claim 35, wherein said statistical filtering is Kalman filtering.

37. (Previously Presented) The system of claim 35, comprising at least one measurement source providing at least one additional measurement to be associated with said respective measurements, said at least one additional measurement being indicative of at least one of the location and displacement of said mobile terminal.

38. (Previously Presented) The system of claim 37, comprising an altimeter for measuring an altitude coordinate of said mobile terminal.

39. (Previously Presented) The system of claim 35, wherein said set of reference elements comprises at least one satellite-based reference element of a satellite-based positioning system.

40. (Previously Presented) The system of claim 35, wherein said at least one measuring module is configured for determining at least one parameter selected from the group consisting of: power received at said mobile terminal from said set of reference elements, timing advance, round trip time, observed time differences, and observed time differences of arrival.

41. (Previously Presented) The system of claim 35, wherein at least part of said set of reference elements comprises, together with said mobile terminal, a terrestrial cellular communication system.

42. (Previously Presented) The system of claim 41, wherein at least one of said measurement module and said processing module includes a first portion hosted by said mobile terminal and a second portion hosted by a location center, wherein said first and second portions are arranged for data exchange over said terrestrial cellular communication system.

43. (Currently Amended) A system for determining at least one location coordinate of a mobile terminal with respect to a set of reference elements adapted to send radioelectric signals toward said mobile terminal, comprising:

both a set of terrestrial reference elements and at least one satellite-based reference element of a satellite-based positioning system as said reference elements;

at least one measuring module for measuring said radioelectric signals to derive respective measurements, said measurements being affected by measurement errors;

at least one processing module configured to:

subject said measurements to state-based statistical filtering,

provide in said statistical filtering at least one further state in addition to said at least one location coordinate, said at least one further state being representative of said measurement errors, wherein said represented errors are non-zero mean errors; and

determine from said state-based statistical filtering said at least one location coordinate of said terminal; and

at least one measurement source providing at least one additional measurement to be associated with said respective measurements, said at least one additional measurement being indicative of at least one of the location and displacement of said mobile terminal.

44. (Currently Amended) A mobile terminal configured for determining its location coordinates with respect to a set of reference elements adapted to send radioelectric signals toward said mobile terminal, comprising:

a measuring module for measuring said radioelectric signals and deriving respective measurements, said measurements being affected by measurement errors; and

a processing module adapted for subjecting such measurements to state-based statistical filtering, the terminal comprising together with at least part of said set of reference elements, a terrestrial communication system, and said processing module being configured to:

include in said statistical filtering at least one further state in addition to said location coordinates, said at least one further state being representative of said measurement errors, wherein said represented errors are non-zero mean errors, and

determine from said state-based statistical filtering said location coordinates of said terminal.

45. (Previously Presented) The mobile terminal of claim 44, wherein said statistical filtering is Kalman filtering.

46. (Previously Presented) The mobile terminal of claim 44, wherein the terminal has at least one measurement source providing at least one additional measurement to be associated with said respective measurements associated therewith, said at least one additional measurement being indicative of at least one of the location and displacement of said mobile terminal.

47. (Previously Presented) The mobile terminal of claim 46, wherein the terminal has an altimeter for measuring an altitude coordinate of the mobile terminal associated therewith.

48. (Previously Presented) The mobile terminal of claim 46, wherein the terminal is mounted on a vehicle, and said at least one additional measurement is indicative of at least one of the location and displacement of said vehicle.

49. (Previously Presented) The mobile terminal of claim 44, wherein said measuring module is configured for determining at least one parameter selected from the group consisting of: power received at said mobile terminal from said set of reference elements, timing advance, round trip time, observed time differences and observed time differences of arrival.

50. (Currently Amended) A mobile terminal configured for determining its location coordinates with respect to a set of reference elements adapted to send radioelectric signals toward said mobile terminal, said set of reference elements including both terrestrial reference elements and at least one satellite-based reference element of a satellite-based positioning system comprising:

a measuring module for measuring said radioelectric signals to derive respective measurements, said measurements being affected by measurement errors;

a processing module configured to:

subject said measurements to state-based statistical filtering,

provide in said statistical filtering at least one further state in addition to said at least one location coordinate, said at least one further state being representative of said measurement errors, wherein said represented errors are non-zero mean errors; and

determine from said state-based statistical filtering said location coordinates of said terminal; and

at least one measurement source associated to the mobile terminal and providing at least one additional measurement to be associated with said measurements, said at least one additional measurement being indicative of at least one of the location and displacement of said mobile terminal.

51. (Currently Amended) A computer readable medium encoded with a computer program product ~~capable of being~~ loadable ~~in the~~ into a memory of at least one computer, the computer program product [[and]] comprising software code portions for performing the method of any one of claims 27 to 34.

52. (Currently Amended) A computer readable medium encoded with a computer program product ~~capable of being~~ loadable ~~in the~~ into a memory of a computer and including software code portions for implementing the mobile terminal of any one of claims 44 to 50.